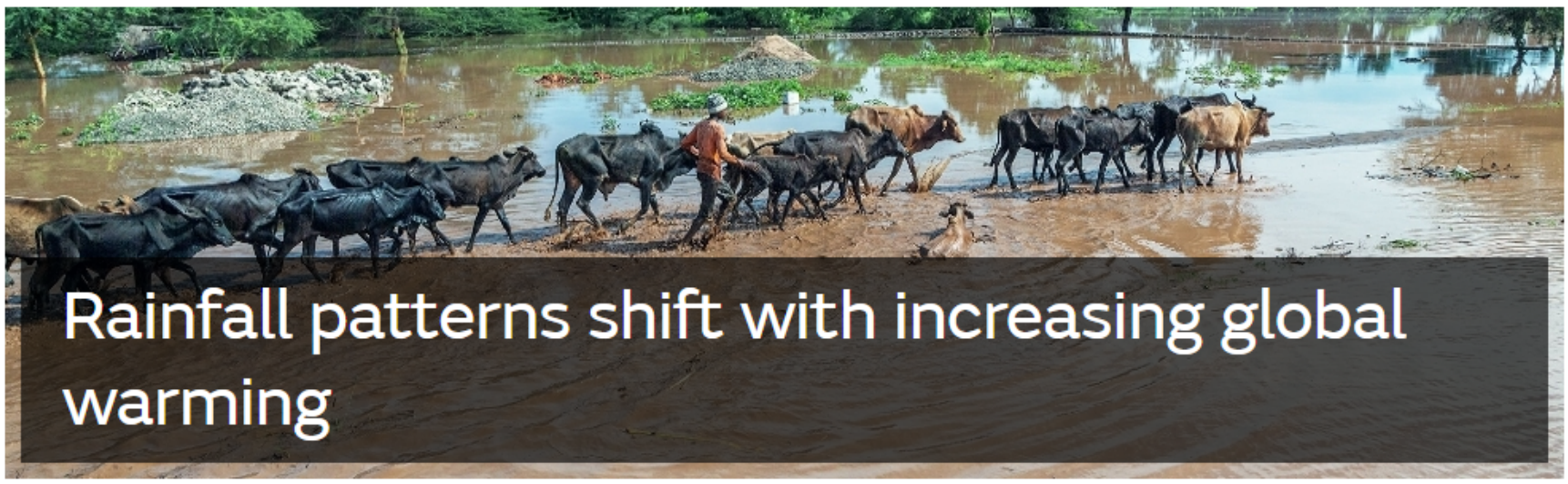

Rainfall patterns shift with increasing global warming

Dec 6, 2016 11:03 AM

A scientific study looking at how rainfall patterns across the world might respond to rising average global surface temperature has revealed an interesting result: regional rainfall patterns won't change by the same amount per degree of global warming.

Specifically, if the goal of the Paris Agreement of staying below 2° C is missed, the additional rainfall changes that would occur would be very different in some regions compared to the change experienced up to 2° C global warming.

Climate scientist, Peter Good, from the Met Office Hadley Centre, is the paper's lead author. He said: "To help communities with climate resilience, it is essential to understand the relationship between rising temperatures and rainfall patterns. The traditional logic is that each degree of planetary warming produces about the same level of regional change.

"However, our paper challenges current thinking. Our team shows that the regional rainfall impacts between 2° C and 4° C could be somewhat different than the regional impacts between 0° C and 2° C for some regions."

The paper also reveals an interesting second result. It suggests that regardless of the speed at which we might approach 2° C global warming, the rainfall changes would be broadly similar – for example if we were to reach that level quickly via high emissions, or more slowly using mitigation measures.

Dr Ed Hawkins, from NCAS, University of Reading, was a co-author of the research. He said: "Attention on climate change often focuses on global average temperature increases, but climate change most often affects people with specific events, not averages.

"Rainfall has a major impact on people's lives, so it is important to show how temperature changes are likely to influence shifting rainfall patterns in the future."

The paper – *Large differences in regional precipitation change between a first and second 2K of global warming* - has been written by a team of researchers from: the Met Office; NCAS-Climate, at the University of Reading; and the Los Alamos National Laboratory, in New Mexico.

The paper is published in Nature Communications.

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